



Integrations (Direct)

Smartshift — Last update: 17 March 2021

Basis Technologies

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1. Background Information

1.1. Introduction

ActiveControl 8.3 introduces an Integration with [smartShift Technologies](#) 'smartRetrofit' product.

This integration is to enable customers that have purchased both products to deliver a more automated migration of relevant ECC objects into a new S/4 Development track.

The Integration is intended so that SAP customers can use ActiveControl to deliver its existing end-to-end workflow process and associated automation, but also use:

1. ActiveControl Merge to migrate customising objects from ECC to S/4 (and any other object types not mentioned in 1)
2. SmartRetrofit to migrate workbench objects (specifically PROG/FUGR/CLASS type objects) from ECC to S/4

1.2. Document Purpose

This ActiveControl / SmartRetrofit Integration Guide documents the intended process and associated configuration setup to integrate ActiveControl with SmartShift product.

It is not intended as a technical document of the underlying Integration development, nor as a setup guide for the underlying SmartShift or ActiveControl products.

A reasonable knowledge of both products is already assumed for the audience of this Integration Guide.

It is not envisaged that this Integration would be setup by an existing ActiveControl customer without both Basis Technologies and smartShift Technologies involvement.

1.3. Reference Documentation

This Administration Guide is not intended as a document detailing the steps to setup ActiveControl or smartShift Retrofit products. Such information is covered in separate documentation detailed below:

Document	File / Location
ActiveControl Administration Guide	Available via http://docs.basistechnologies.com/
smartShift Retrofit Application Requirements	smartShift Retrofit Appliance_Requirements_V3.1.pdf
smartShift Installation Guide	SmartShift_Retrofit_Installation_Whitebox_V3.0.pdf

1.4. Product Installation

ActiveControl Installation

ActiveControl is typically installed in a productive Solution Manager system. It does not need to be the Solman system, it can be any ABAP SAP system with high availability.

For more information on installing ActiveControl, please refer to separate online Administration Guide documentation.

SmartShift Installation

SmartRetrofit has two components:

1. A backend appliance which is Java-based application hosting the merge features
2. ABAP components that needs to be installed in the source and target systems under dual maintenance and a central component that is typically installed in Solution Manager.

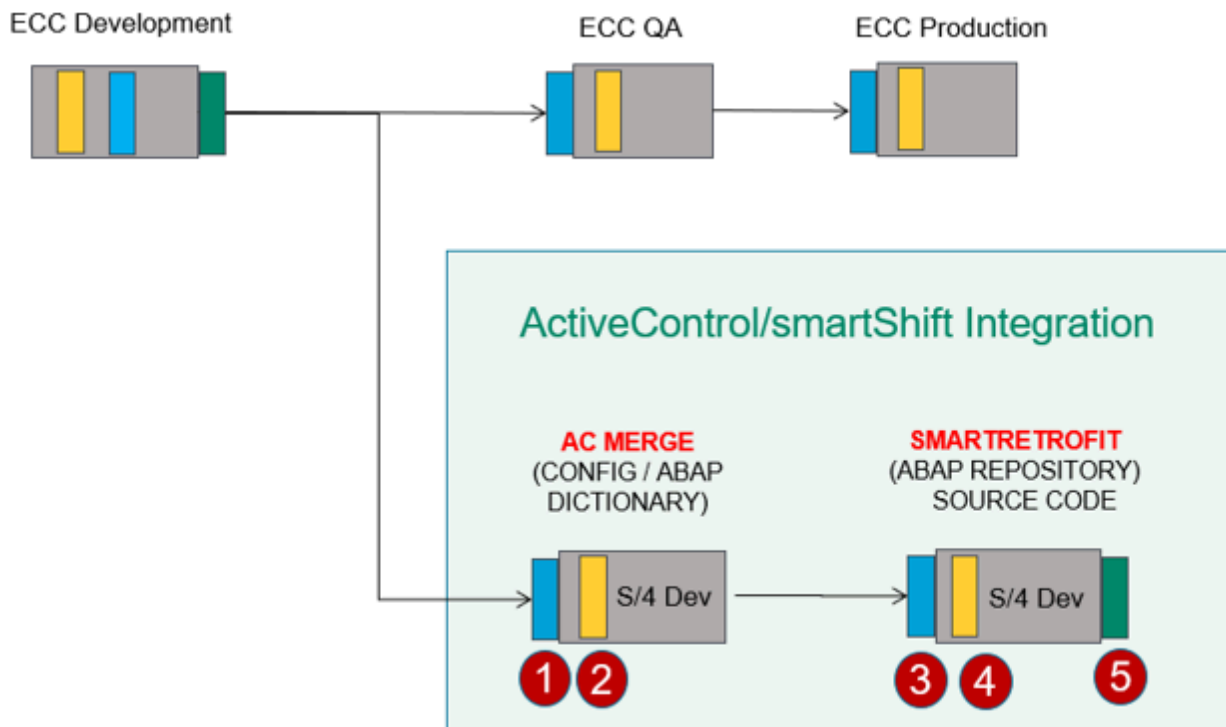
smartRetrofit will be integrated with ActiveControl for transport management, change deployment ,sequencing of transports etc during the Retrofit process.

There is no requirement that smartRetrofit be installed in the same system that is acting as the ActiveControl Controller, however the general recommendation would be that both should be on the same SAP system, to reduce the risk of errors within the Integration.

2. Functional & Technical Workflows

2.1. Functional Workflow

The high-level intended workflow of the ActiveControl / SmartShift is described in below diagram.



In summary:

- Development will be done in the ECC source system as per the existing customer process. This will likely include at minimum a ECC Development Test Queue where unit testing is performed, and depending on the customer's exact workflow, possibly also an outbox where the Transport is automatically released by ActiveControl.
- On ECC outbox approval, the ECC transport will flow through the rest of the ECC workflow. It will also be distributed to the parallel ActiveControl smartShift workflow, which comprises a Merge target and a SmartRetrofit target in series.
- All transports will initially stop in the Inbox of the AC Merge target for Conflict Analysis (ie regardless if it is an ABAP Repository of Configuration/ABAP Dictionary object)
- It is expected that the ECC transport will already be released by the time it reaches the AC Merge Inbox. Check Transport Release (0014) analyser can be used to ensure this.

- (1) In the Merge Inbox, ALL transports (ie both ABAP Repository of Configuration/ABAP Dictionary objects) will stop for Approval. Conflict Analysis will run at this point, highlighting if any changes made to the same object in the target S/4 Development system. Mark as Manually Applied will be used as normal when not wanting to Merge. The Transport Form will be approved if desired to be Merged.
- (2) In the Merge Import Queue, import will create a Merge request in the target S/4 Development system. This is as per the standard Merge process within ActiveControl.
- (3) In the smartRetrofit Inbox, all ABAP repository/source code objects will stop for Approval. Conflict Analysis will run at this point, highlighting if any changes made to the same object in the target S/4 Development system. Mark as Manually Applied can be used as normal when not wanting to Merge. The

Transport Form will be approved automatically by the polling report.

(4) In the smartRetrofit Import Queue, the ActiveControl/SmartShift integration will run. This is described in more detail in the following section.

(5) In the smartRetrofit Outbox, the ActiveControl/SmartShift integration will run, and an automated approval will be done when the process is complete. Again, this is described in more detail in the following section.

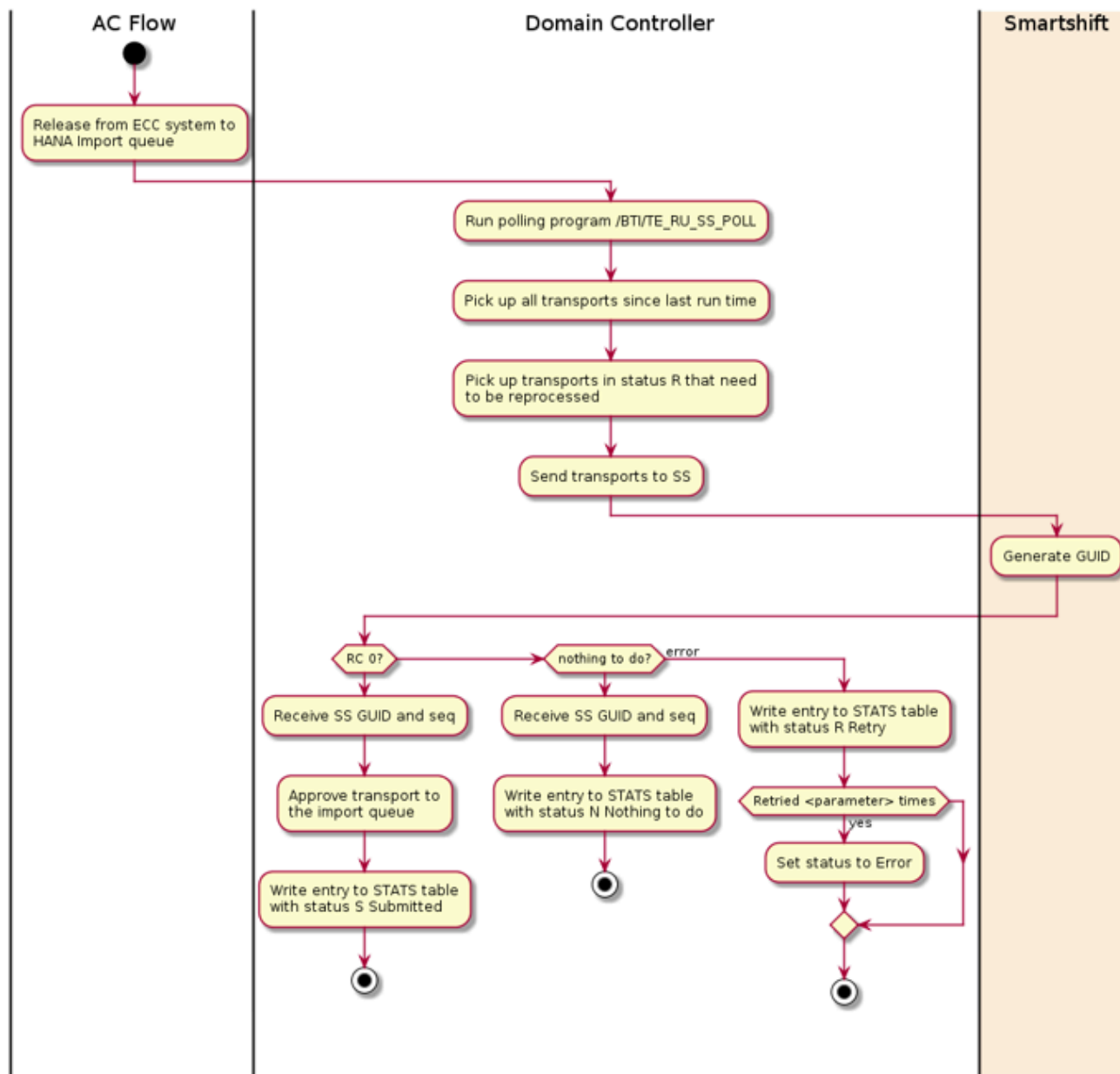
Notes

(i) The Merge/smartRetrofit does not need to be done directly after Development. It can also be done after Production if preferred.

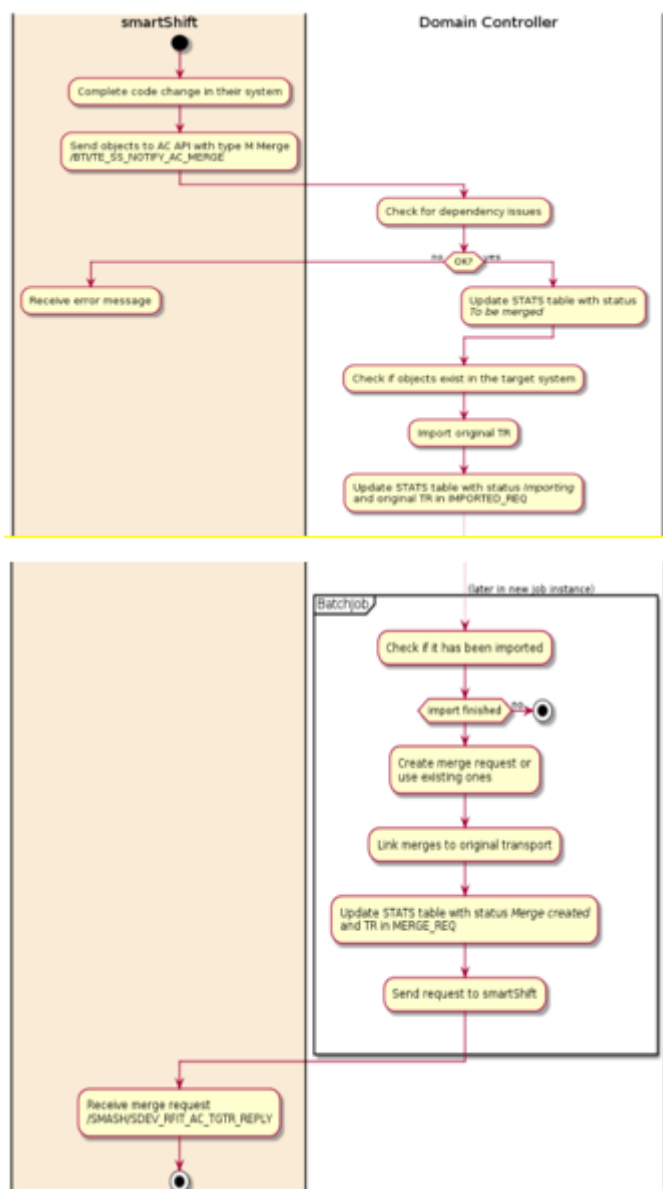
(ii) The SmartRetrofit polling target must have Inbox/Import/Outbox.

2.2. Technical Integration Workflows

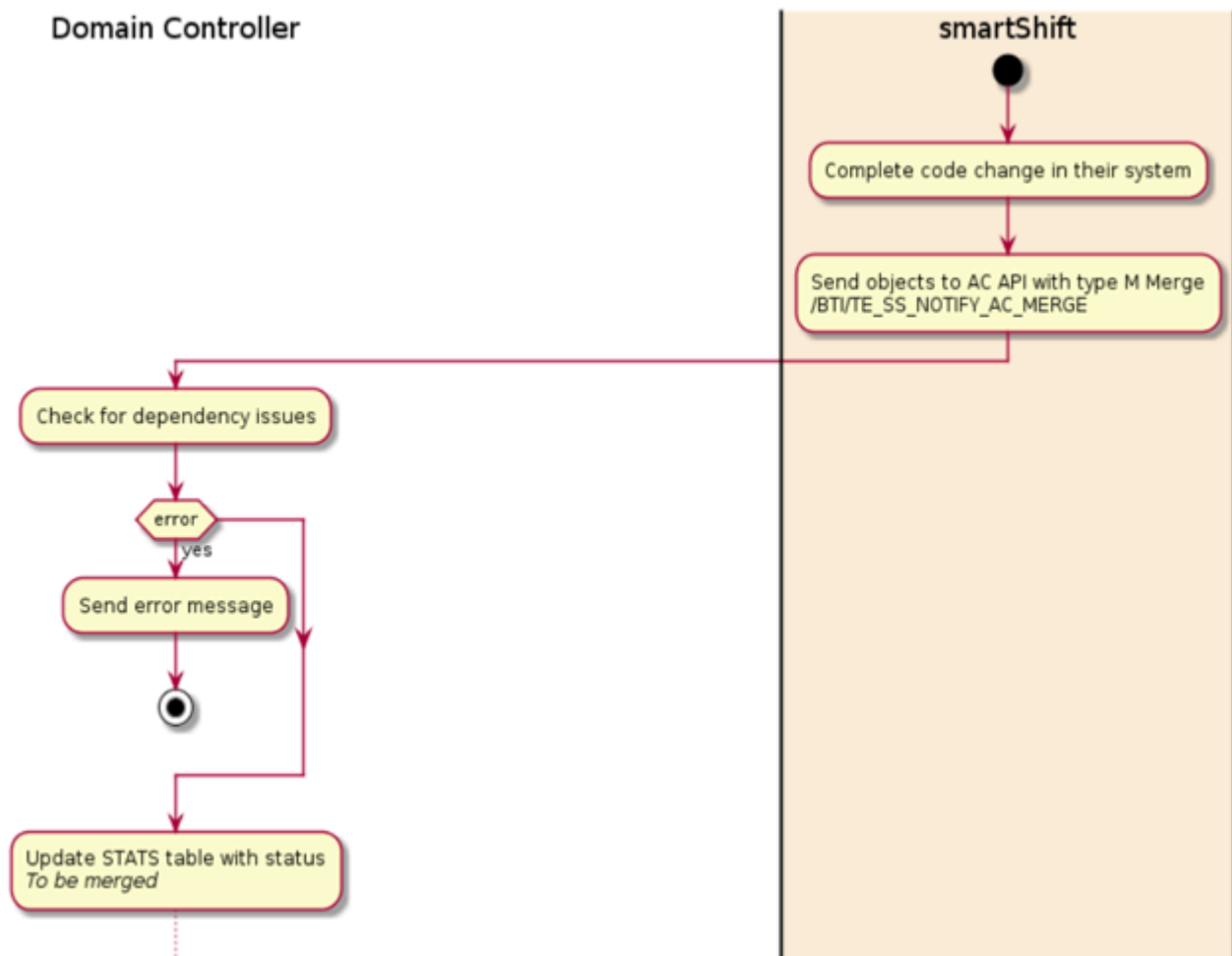
2.2.1. Integration workflow of Polling Program

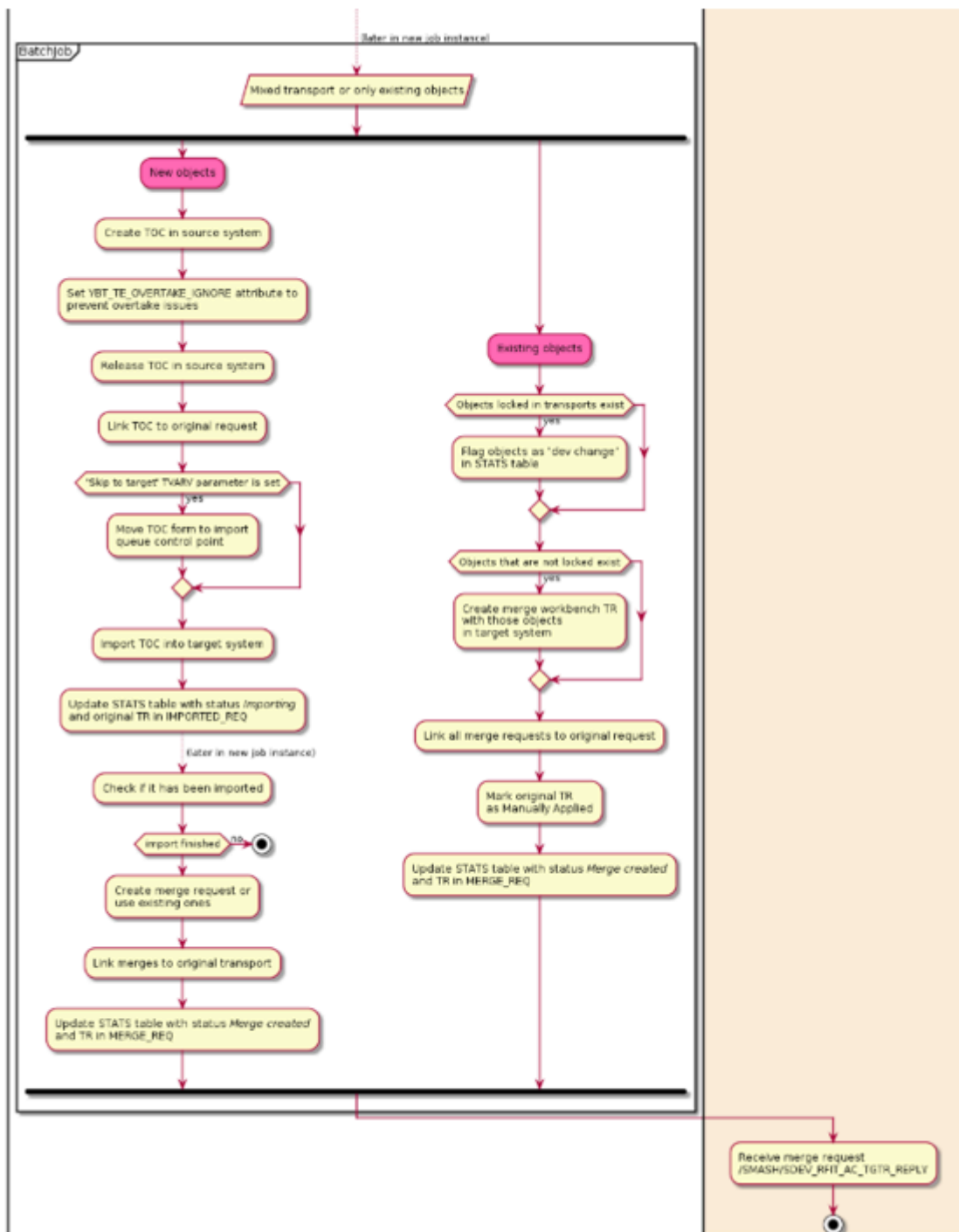


2.2.2. Integration workflow for only new objects

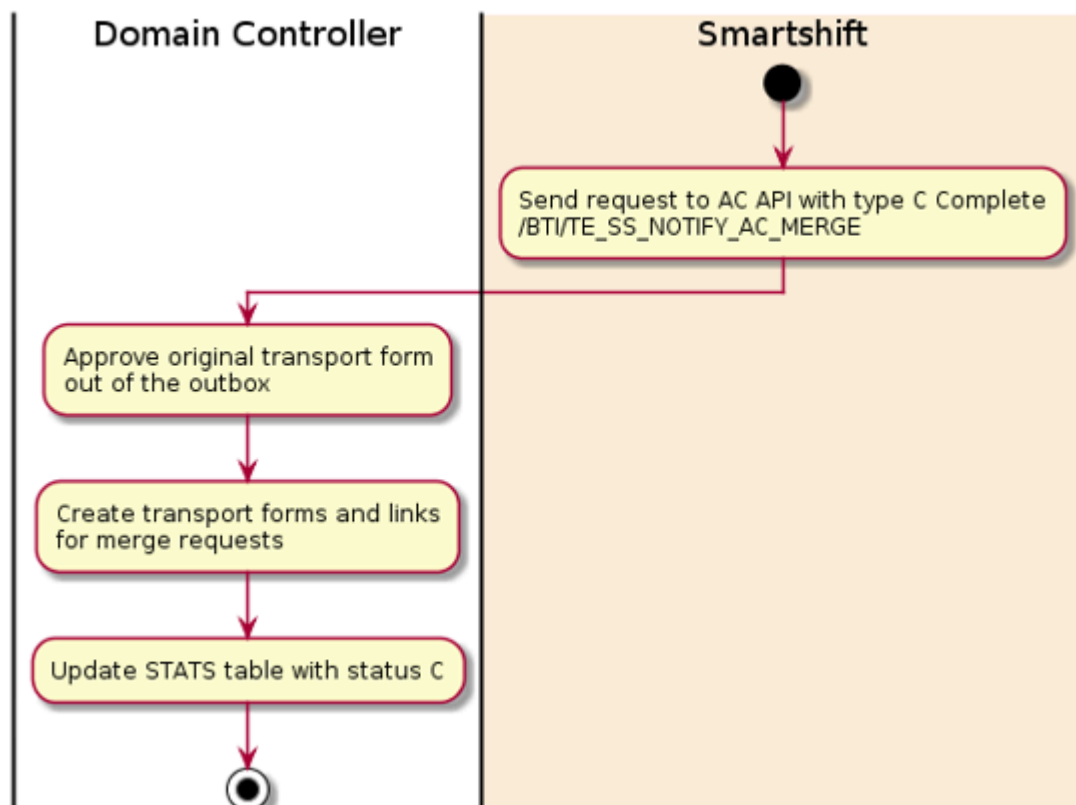


2.2.3. Integration workflow for existing objects





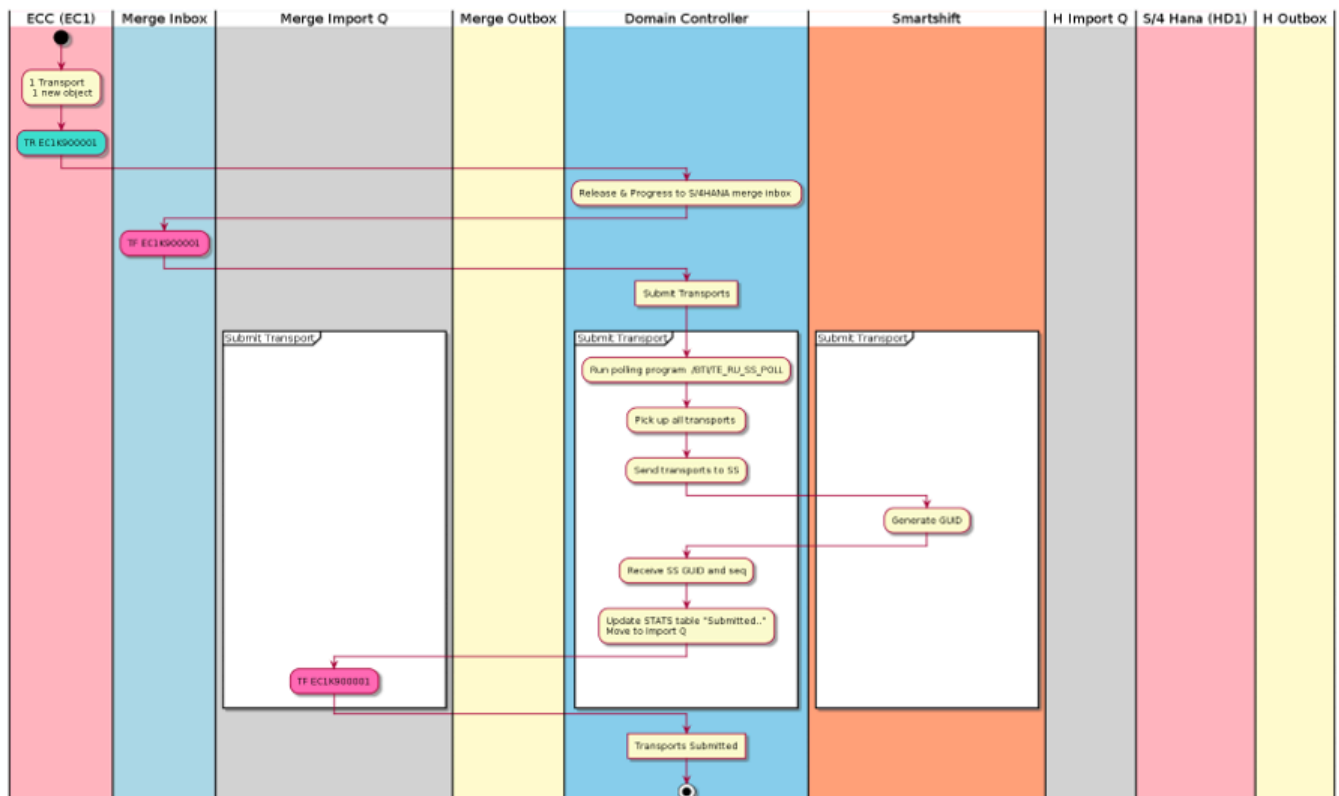
2.2.4. Integration workflow of Notification API for type C – Complete



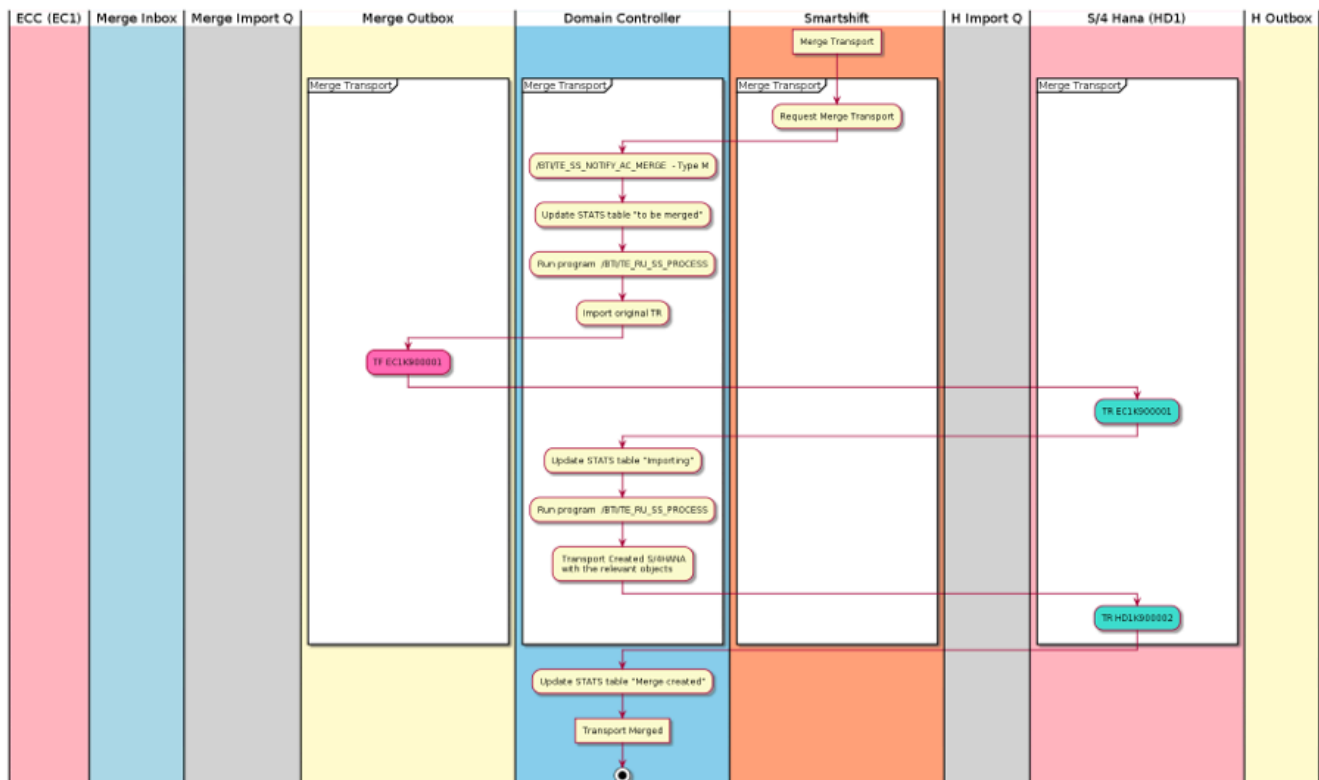
2.3. Example Scenarios

2.3.1. New Object Only

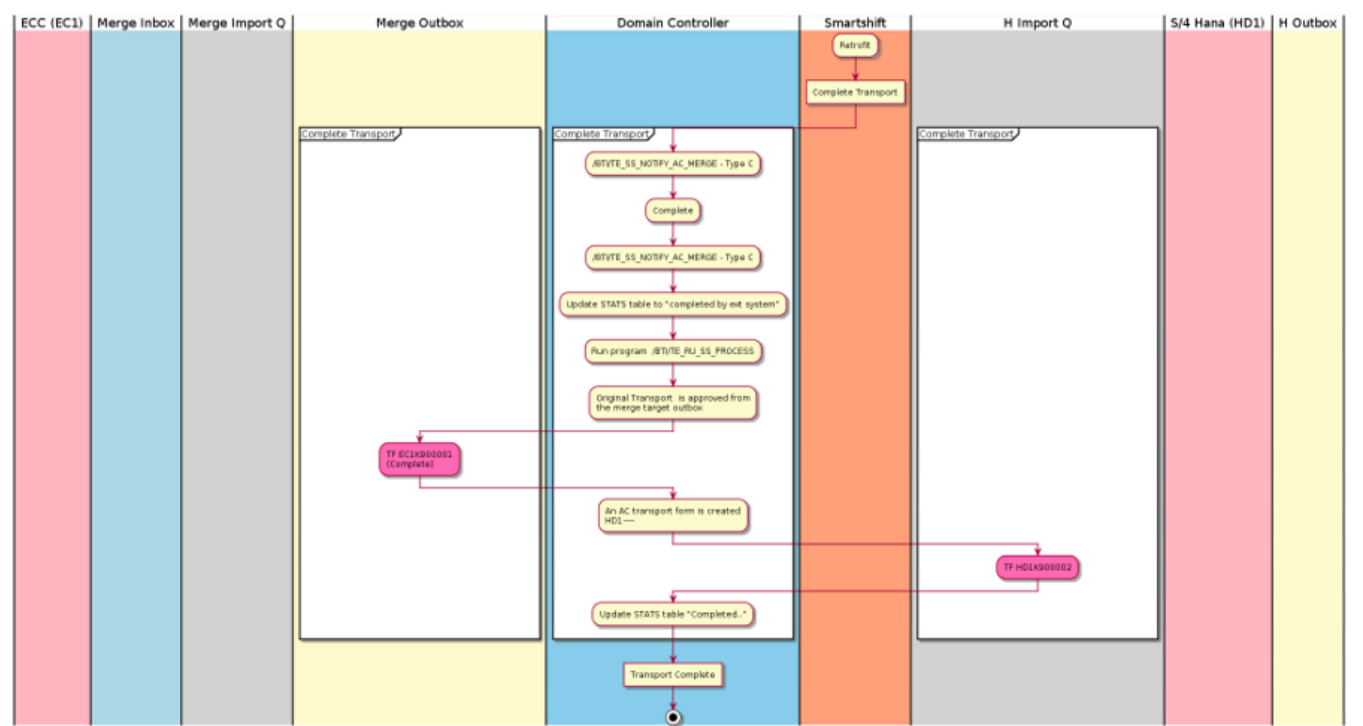
2.3.1.1. Transport 1 new object (POLLING)



2.3.1.2. Transport 1 new object (MERGE)



2.3.1.3. Transport 1 new object (COMPLETE)

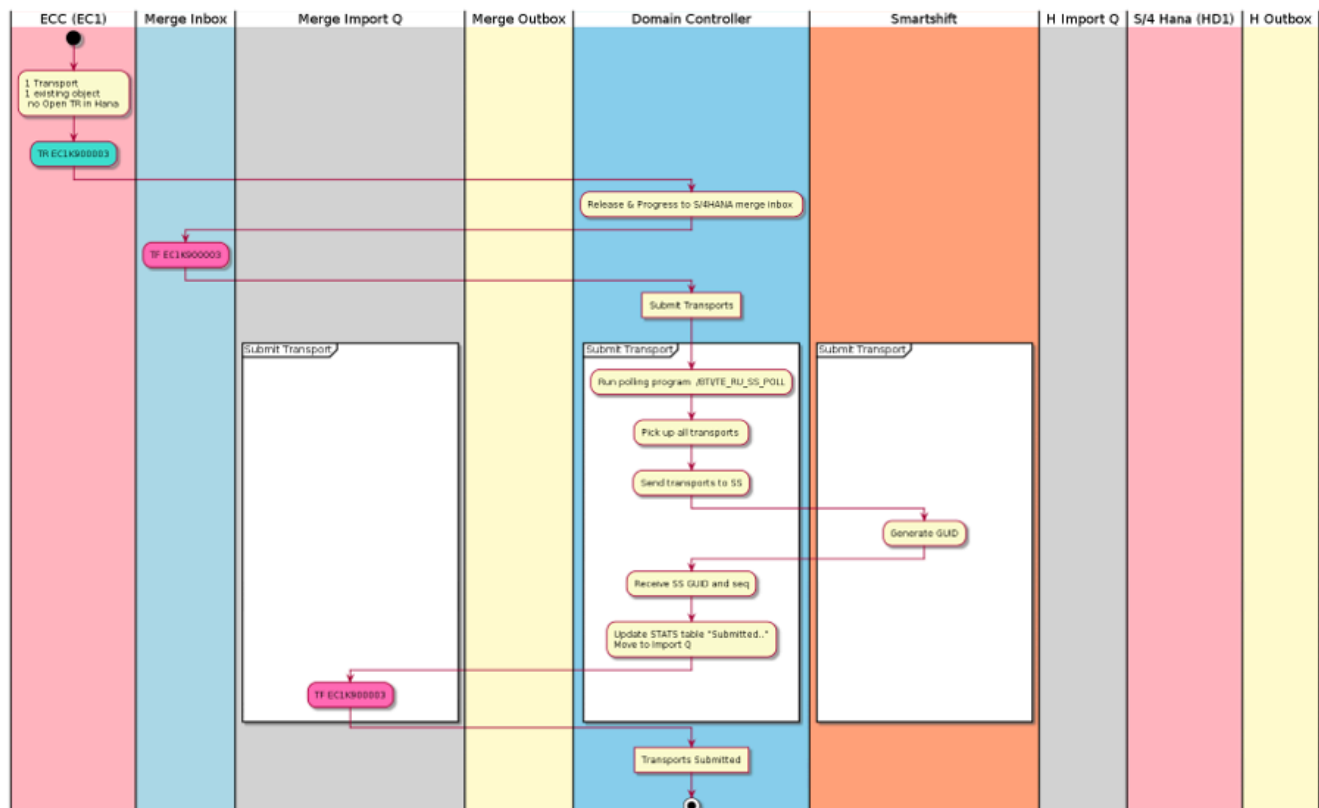


2.3.2. Existing Object

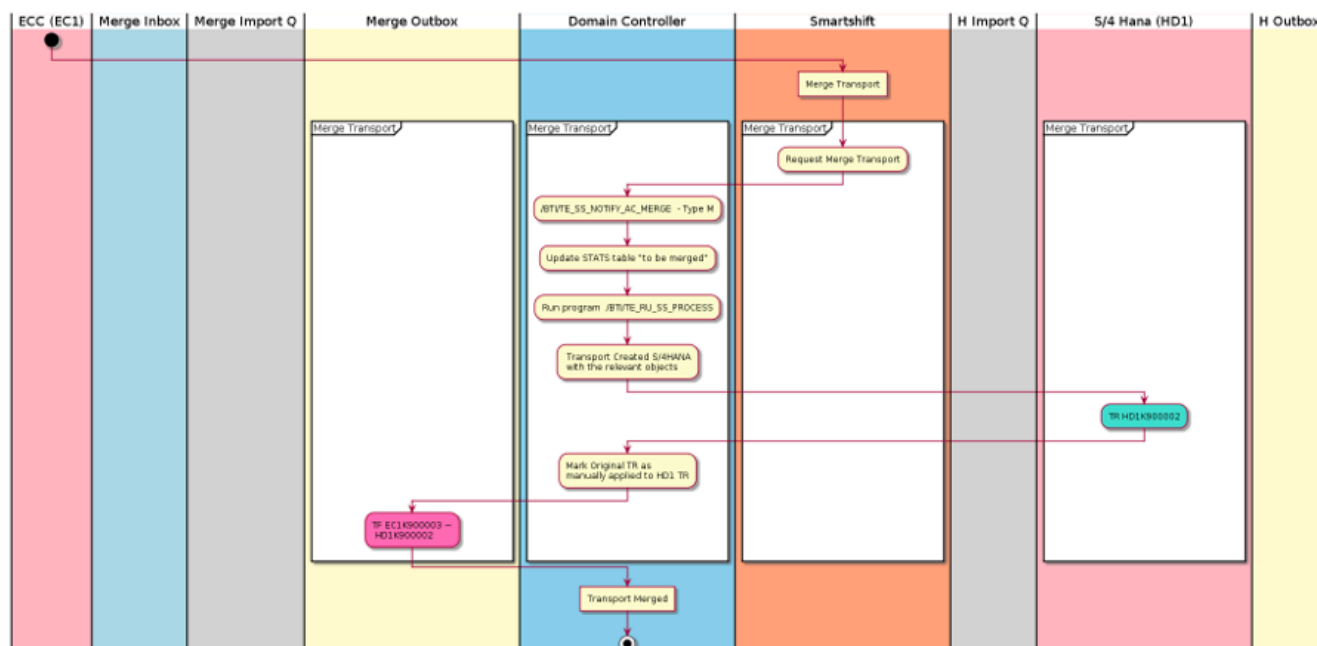
2.3.2.1. Transport 1 Existing Object No Open TR in S/4 HANA (POLLING)

Scenario

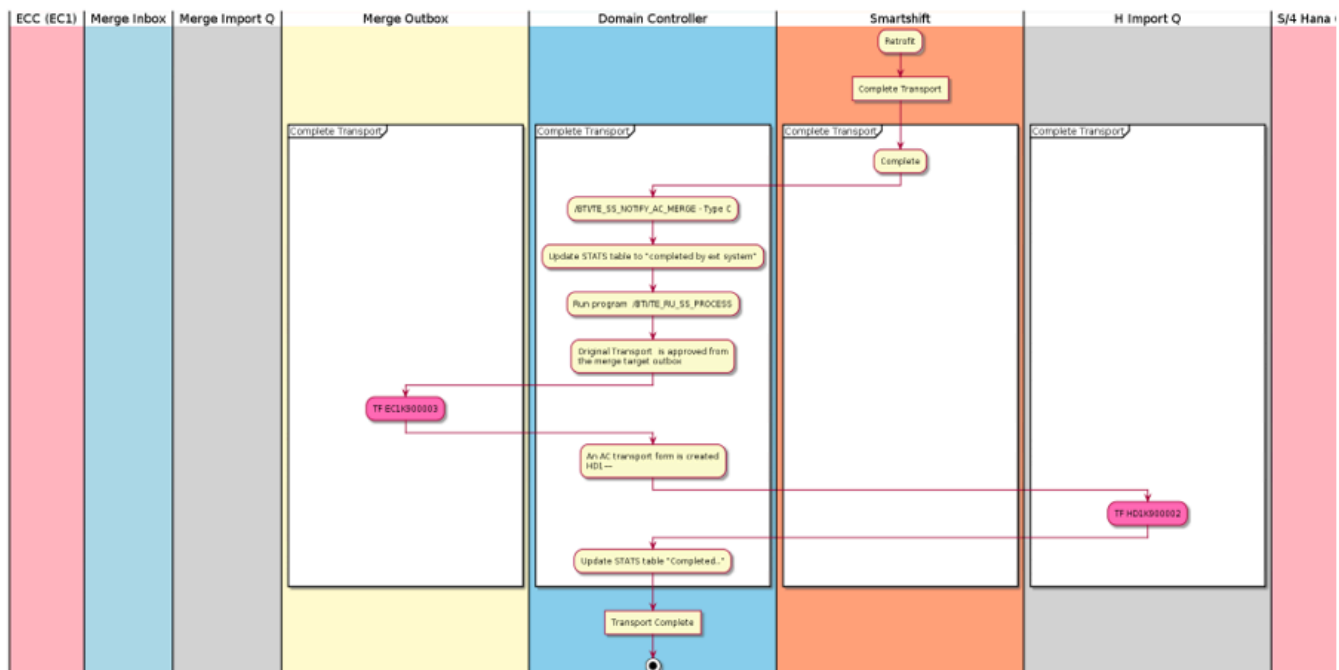
- 1 Transport
- 1 Existing Object
- No Open TR in S/4 HANA



2.3.2.2. Transport 1 Existing Object No Open TR in S/4 HANA (MERGE)



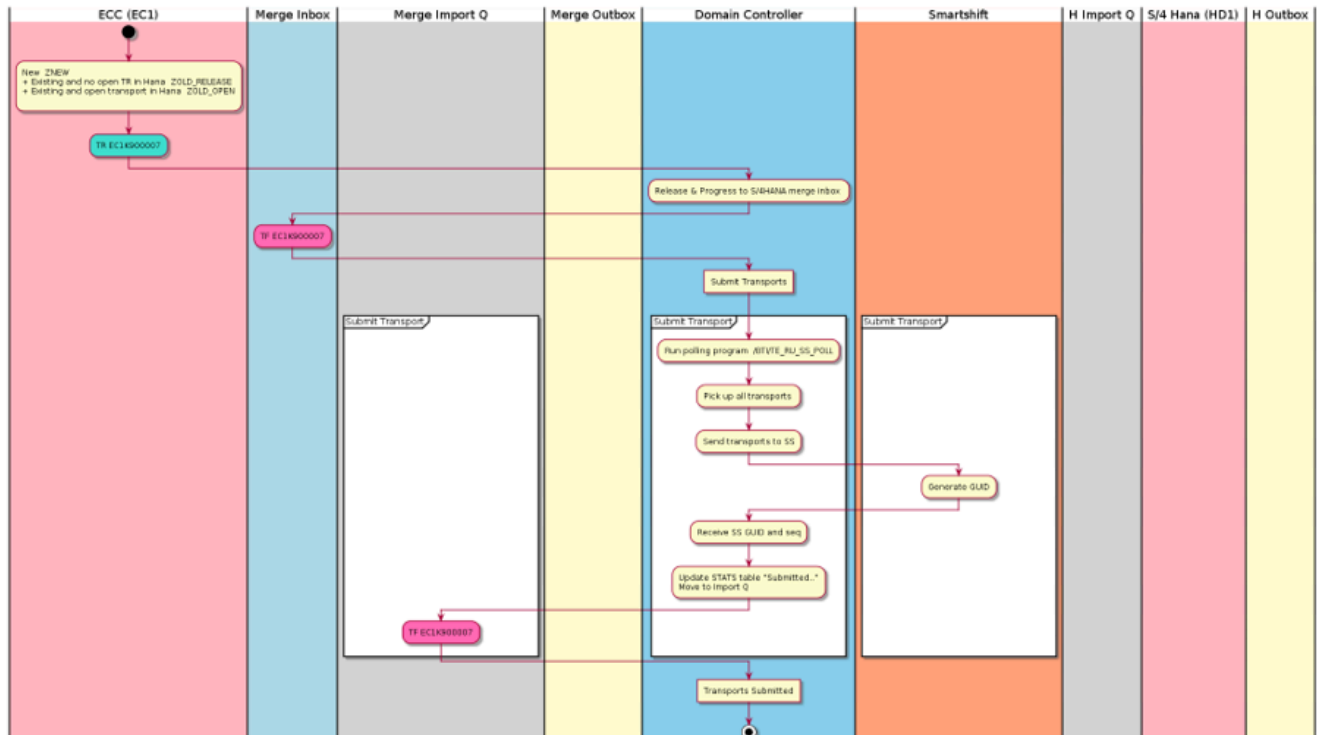
2.3.2.3. Transport 1 Existing Object No Open TR in S/4 HANA (COMPLETE)



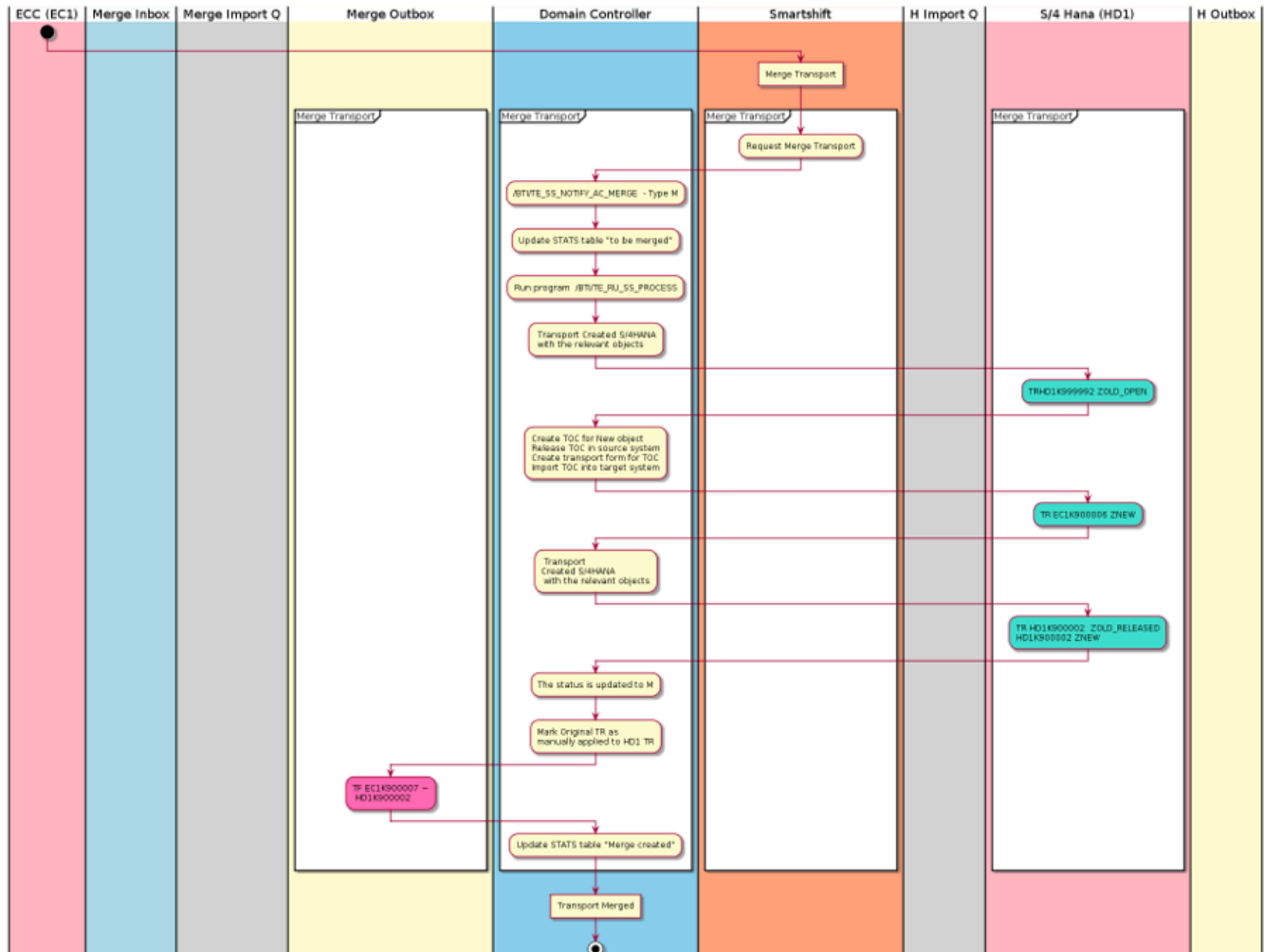
2.3.3. New and Existing Objects

2.3.3.1. New + Existing and no open TR in Hana + Existing and open transport in Hana (POLLING)

- 1 New Object ZNEW
- 1 Existing Object and no open TR in Hana ZOLD_RELEASE
- 1 Existing Object with open transport in Hana ZOLD_OPEN



2.3.3.2. New + Existing and no open TR in Hana + Existing and open transport in Hana (MERGE)



3. Integration Configuration

3.1. Integration Components

The following details the technical components of the ActiveControl / SmartRetrofit Integration:

Topic	Technical Details
Target Configuration	Merge Target smartRetrofit Target
Users	
RFC Communications	
API's	/SMASH/SDEV_RETRFIT_TR_SUBMIT[AC->SST Register a TR in SmartRetrofit from AC] /SMASH/SDEV_RFIT_AC_TGTR_REPLY [AC-> SST Provide SmartRetrofit a Target Transport] Report /SMASH/RETRFIT_REQ_STATUS_TOAC [SST->AC Error handling and recovering from RFC errors automatically]
Number Range	None
Integration Classes	/BTI/TE_CL_SS_API_WRAPPER
Configuration Tables	/BTI/TE_SS_SERVR /BTI/TE_SS_HANDL
Data Tables	/BTI/TE_SS_LOG /BTI/TE_SS_STATS
Programs	/BTI/TE_RU_SS_POLL /BTI/TE_RU_SS_PROCESS
Jobs	
Notifications	None
Error Logging	

3.2. Target Configuration

3.2.1. ActiveControl Merge Target

The ActiveControl Merge target to be used to synchronise ECC configuration and ABAP dictionary changes into S/4 target development system should be configured as per any Merge target.

This is detailed in this online [Knowledge Article](#).

3.2.2. SmartRetrofit Target

The smartRetrofit Target used by the ActiveControl smartShift integration solution to synchronise ECC ABAP repository source code changes into S/4 target development system should be configured as follows:

Target Properties - S4/Hana - SS (HD2)

General | Import Options | Import Options II | Inbox (Pending) Approvers | Outbox Approvers | Analysis Types

Target

SAP System ID:

Description:

Group Label:

Role:

Clients

Specify the clients of this target SAP system that transport requests are to be imported into. For example: '100, 200, 300'.

☐ Execute client copy SCC1 automatically on transport form creation ☐ Execute client copy SCC1 automatically on transport release

Miscellaneous

☐ Source system for transport requests created in SAP ☐ Hide this target within ActiveControl

☐ Skip import queue for virtual targets ☐ Bypass all control points in this target (When system is offline)

After approval of items at the on this target, tasks are automatically locked

After approval of items at the on this target, automatically release transports

☐ Automatically run general analysis on testing approval ☒ Allow test result entry for my transports on this target

Automatically approve items where no critical analysis issues found in: ☐ Inbox ☐ Outbox

Consolidated Import Queue Options

This target

OK Cancel

Target Properties - S4/Hana - SS (HD2)

General **Import Options** Import Options II Inbox (Pending) Approvers Outbox Approvers Analysis Types

Import Options

☒ Import Method One request at a time - AC Default sequence

Try to import transport requests in the order that they were imported into the predecessor target.
(None)

☐ Force transport dependencies when importing in same order as predecessor system.

Schedule a background job to automatically import transport requests at the times specified in the following transport schedule.
(None)

Optionally specify additional import schedules

Suppress import analysis during scheduled imports
No

☐ Import jobs scheduled by ActiveControl ☐ Orchestrated

☒ Continue importing transport requests when an import error occurs Timeout for delayed imports (minutes) 10

☐ Continue importing queued transport requests for scheduled imports ☐ Ignore System Id during import (CTS+ only)

☐ Automatically create backup transport requests

Merge / Parallel Development Streams

☒ Perform conflict analysis against this target ☒ Require that transports with changes to SAP objects be manually merged

☒ Client to be used during conflict analysis: 100

☐ Create a merge transport request in this SAP system after importing changes

Fix renamed objects in merge requests :
Never

☐ Add all dependant routines and formulae for BW merges

☐ Inherit merge transport owner from original transport (CTS+ only)

Default package for merged objects

OK Cancel

Note: Though the SmartRetrofit Target is very similar to an AC Merge target configuration, 'Create a merge transport request in this SAP system after importing changes' must NOT be flagged.

Target Properties - S4/Hana - SS (HD2)

General

Import Options

Import Options II

Inbox (Pending) Approvers

Outbox Approvers

Analysis Types

Merge / Parallel Development Streams (Continued)

Transport target for merge requests

Merge Size

1:1

Merge Path

Hana migration

Merge Type

Merge

Merge Group

SmartShift

☐ Stop on BW post-processing error

Merge Task

...

On Error :

Continue

☐ For 1:1 merges automatically copy over transport form manual step details

Unconditional Modes

Automatically apply the following unconditional modes when importing a transport request into this target, regardless of what unconditional modes are specified on the transport form.

☒ 1. Import requests that have been imported before (always selected)

☒ 6. Overwrite objects in unconfirmed repairs

☒ 2. Overwrite original objects

☐ 8. Import customer table entries

Custom Processing

Pre-import logical command:

☐ Execute on the target SAP system

Post-import logical command:

☐ Execute on the target SAP system

3.3. Users

A User is required to be created in the system in which smartRetrofit appliance has been installed.

This User will be required by the RFC communication from the AC Domain Controller to this SAP system where smartRetrofit is installed

User	User Type	Roles Required
AC_RFC	System User	Must have the SmartShift roles to access their APIs smartShift delivers the required role as part of the installation transport. This authorizes the execution of APIs in /SMASH/ namespace in RFC mode.

3.4. Remote Function Calls

A Remote Function Call (RFC) is required from the ActiveControl Domain Controller out to the system in which smartRetrofit appliance has been installed.

This is setup in the standard way using SM59 within the AC Domain Controller.

RFC Name	Notes	Connection Type	Target Host	Path Prefix	Service Number
TRANSPORT EXPRESS {System ID}	(where System ID is the system in which smartRetrofit is installed)	3	Host of the system in which smartRetrofit installed		Service Number of the system in which smartRetrofit installed

This RFC connection should use the User created in the system in which smartRetrofit has been installed, as detailed in previous section. |

3.5. Classes

3.5.1. /BTI/TE_CL_SS_API_WRAPPER

/BTI/TE_CL_SS_API_WRAPPER

This is an internal class on the ActiveControl side that is used to call:

- smartShift API to submit ECC transport for retrofit.
- smartShift API to submit the merge request after importing new objects

No setup is required for this Class.

3.6. Configuration Tables

3.6.1. /BTI/TE_SS_SERVER

Table /BTI/TE_SS_SERVER is required so that the ActiveControl Domain Controller system knows the target system in which smartRetrofit is installed.

SSSERVERID	RFC_DESTINATION
System ID of the SAP system on which SmartRetrofit is installed	RFC Destination used to communicate with the SmartRetrofit installed system.

Example Configuration:

Data Browser: Table /BTI/TE_SS_SERVER Select Entries1

Table: /BTI/TE_SS_SERVER

Displayed Fields: 2 of 2

Fixed Columns:

1

List Width 0250

	SSSERVERID	RFC_DESTINATION
<input type="checkbox"/>	XD1	TRANSPORT EXPRESS XD1

3.6.2. /BTI/TE_SS_HANDL

This customizing table is used to map the possible statuses on the ActiveControl side to handler classes. The mapping is configured per program, i.e. a status can be handled by the polling program and/or the batch processing program. Accordingly, the programs dynamically process status entries based on this configuration table and do not have hard-coded behaviour.

No configuration is required for this table.

3.7. Data Tables

Several new data tables are used by the ActiveControl//smartRetrofit Integration. These tables do not need to be maintained.

3.7.1. BTI/TE_SS_LOG

Data table BTI/TE_SS_LOG is where all integration transactions are logged.

Field	Explanation of Field												
TRKORR	Transport Number												
REQUESTID	GUID generated from smartShift for transport												
CUSREQNUM	user-friendly unique tracking number in addition to GUID												
SEQNUM	A sequence to every event while merging a transport												
MSGTYPE	<table> <tr> <th>Code</th><th>Type</th></tr> <tr> <td>S</td><td>Message on next screen</td></tr> <tr> <td>I</td><td>Information</td></tr> <tr> <td>A</td><td>Cancel</td></tr> <tr> <td>E</td><td>Error</td></tr> <tr> <td>W</td><td>Warning</td></tr> </table>	Code	Type	S	Message on next screen	I	Information	A	Cancel	E	Error	W	Warning
Code	Type												
S	Message on next screen												
I	Information												
A	Cancel												
E	Error												
W	Warning												
MESSAGE	See Appendix 1 – Message Types for the typical messages.												
TIMESTAMP	Time stamp of the transaction												

3.7.2. /BTI/TE_SS_STATS

Data table BTI/TE_SS_STATS is where details of all integrations are recorded.

Field	Explanation of Field																																		
TRKORR	Source Transport Number																																		
ITEM	Object of the transport request																																		
REQUESTID	GUID generated from smartShift for transport																																		
CUSREQNUM	A user-friendly unique tracking number in addition to GUID																																		
SSSERVERID	SID of the smartRetrofit system																																		
TARGETID	Target/Location from where the transport is submitted to smartShift																																		
LOCATION	Target/Location from where the transport is submitted to smartShift																																		
STATUS	<table border="1"> <tbody> <tr><td>001</td><td>Submitted successfully to ext. system</td></tr> <tr><td>002</td><td>Retry submission</td></tr> <tr><td>003</td><td>Error when submitting</td></tr> <tr><td>004</td><td>Manually completed by ext. system</td></tr> <tr><td>005</td><td>Cancelled by ext. system</td></tr> <tr><td>006</td><td>To be merged</td></tr> <tr><td>007</td><td>Importing</td></tr> <tr><td>008</td><td>Error before importing had started</td></tr> <tr><td>009</td><td>Failed because import failed (RC=8)</td></tr> <tr><td>010</td><td>Merge created but sibling objects are pending</td></tr> <tr><td>011</td><td>Merge created and successfully sent to ext. system</td></tr> <tr><td>012</td><td>Error when creating merge request</td></tr> <tr><td>013</td><td>Error when sending merge to ext. system</td></tr> <tr><td>014</td><td>Completed by ext. system</td></tr> <tr><td>015</td><td>No change</td></tr> <tr><td>016</td><td>To be completed (requested by external system)</td></tr> <tr><td>017</td><td>Error when trying to complete</td></tr> </tbody> </table>	001	Submitted successfully to ext. system	002	Retry submission	003	Error when submitting	004	Manually completed by ext. system	005	Cancelled by ext. system	006	To be merged	007	Importing	008	Error before importing had started	009	Failed because import failed (RC=8)	010	Merge created but sibling objects are pending	011	Merge created and successfully sent to ext. system	012	Error when creating merge request	013	Error when sending merge to ext. system	014	Completed by ext. system	015	No change	016	To be completed (requested by external system)	017	Error when trying to complete
001	Submitted successfully to ext. system																																		
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003	Error when submitting																																		
004	Manually completed by ext. system																																		
005	Cancelled by ext. system																																		
006	To be merged																																		
007	Importing																																		
008	Error before importing had started																																		
009	Failed because import failed (RC=8)																																		
010	Merge created but sibling objects are pending																																		
011	Merge created and successfully sent to ext. system																																		
012	Error when creating merge request																																		
013	Error when sending merge to ext. system																																		
014	Completed by ext. system																																		
015	No change																																		
016	To be completed (requested by external system)																																		
017	Error when trying to complete																																		
RETRIES	No of times a transport allowed to process by polling program with error. Once the limit is exceeded, transport will not be picked up by polling program																																		
PGMID	Program ID in Requests and Tasks eg: R3TR/LIMU																																		
OBJECT	Object Type eg: PROG/FUGR/CLAS																																		
OBJ_NAME	Object Name																																		

MERGE_REQ	S4H Transport created for object to retrofit by SS
IMPORTED_REQ	Transport that contains new objects that required to be imported into S4H system before creating a S4H transport to submit to SS for retrofit.
DEVELOPER_CHANGE	Set to true If there is an open request created by a developer in S4H system for an object that is going to be retrofit by smartShift. Field MERGE_REQ contains that open transport in this case.
SOURCE_SID	Source system ID, initially derived from the transport request ID during polling, later replaced by the values sent to the merge API
TARGET_SID	Target system ID, initially taken from the transport form during polling, later replaced by the values sent to the merge API
TIMESTAMP	Timestamp of every update in the table.

3.8. Programs

3.8.1. /BTI/TE_RU_SS_POLL

Polling program /BTI/TE_RU_SS_POLL is used to read the transport from the target and submit to SmartShift to make objects in transport compatible for S4H.

The polling program picks everything up from the inbox of the target and approves the original transports to the import queue after successful polling.

Field	Explanation of Field
Target	This will be the Target ID in ActiveControl of the smartRetrofit target
External system server ID	This will be the ID pointing to the RFC dest of the SAP system configured in /BTI/TE_SS_SERVR – i.e. the system in which smartRetrofit is installed.
No. of Retries before Error	No. of times a transport to be picked up by polling program before it errors
Only process these transports	Ability to poll only specific transports

A variant needs to be created for this program and then scheduled as a job via SM36.

A typical variant will look something like below screenshot (where Target, Location and SmartShift Service ID selection fields are updated to reflect the actual customer's setup).

smartShift integration: Polling transports to Retrofit

ActiveControl target configuration

Target

SmartShift Server ID

Polling execution parameters

☐ Test run

Only process these transports

No. of Retries before Error


3.8.2. /BTI/TE_RU_SS_PROCESS

Since the API calls to ActiveControl are asynchronous, the processing of statuses in the Domain Controller is done as part of a batch job running this program /BTI/TE_RU_SS_PROCESS.










It picks up all statuses in the status table /BTI/TE_SS_STATS and processes the entries per the configuration in /BTI/TE_SS_HANDL. The program is responsible for sending data back to smartShift if necessary.

A variant needs to be created for this program and then scheduled as a job via SM36. A typical variant will look like below screenshot.

smartShift integration: Process status entries



Restriction of processed transports

Request/Task		to		
SS Req ID		to		
SmartShift Sever ID		to		
Target ID		to		
Location		to		
Processing status		to		
Object Type		to		
Obj. Name		to		
Timestamp		to		

Execution options

☐ Test run

3.9. Jobs

3.9.1. Job for /BTI/TE_RU_SS_POLL

The polling program needs to be scheduled in the ActiveControl Domain Controller (via SM37) to run periodically.

It can be scheduled using the standard AC_BATCH user used for other aspects of ActiveControl.

The frequency of this scheduled job will ultimately depend on the Customer Requirement, and should be scheduled in line with the intended smartShift Retrofit (and ActiveControl Merge) cadencies.

3.9.2. Job for /BTI/TE_RU_SS_PROCESS

The processing program needs to be scheduled in the ActiveControl Domain Controller (via SM37) to run periodically.

It can be scheduled using the standard AC_BATCH user used for other aspects of ActiveControl.

The frequency of this scheduled job will ultimately depend on the Customer Requirement, and should be scheduled in line with the intended smartShift Retrofit (and ActiveControl Merge) cadencies.

3.10. APIs

API to check for Conflicts

This API enables customers to check for conflicts in a target Development system against an inputted set of transports. More details on this new API can found in this [Change Note](#).

API to read TF custom fields

This API enables customers to read Transport Form custom fields from within a 3rd-Party tool like SmartShift. More details on this new API can be found in this [Change Note](#)

API to trigger Merge

More details on this can found in this [Change Note](#).

4. Smartshift Integration: Related Enhancements

As part of the smartShift integration, some other enhancements were added to ActiveControl, as follows:

Enhancement	BTI JIRA	Purpose
ShiftLeft: Check Transport Presence	TE-2808	To enable customers to prevent source ECC transport from being approved beyond a certain location when the same transport still existed (ie had not been merged or smartRetrofitted) in a parallel target.
Enhanced Conflict Analysis	TE-2811	To factor in name mapping where the S/4 object has been renamed versus its ECC counterpart.
Enhanced Inline Risk	TE-2806	To enable customers with multiple S/4 Development tracks to write their own custom logic to help drive the distribution of ECC transports to the relevant S/4 merge/retrofit track.

5. Support of SmartShift integration

The following matrix summarises the responsibilities & boundaries of support for Integrations available via our SAP Integration Framework.

	SAP-side Configuration	SAP-side Application ActiveControl + APIs	SAP-side Customisations User Exits, Z developments	Connectivity (SAP < > 3 rd Party Application) RFCs, Firewall, Network Ports, Certificates etc	3 rd Party Application	3 rd Party Application Configuration
ServiceNow	Basis Technologies (only where the configuration was performed by Basis Technologies originally. Otherwise, chargeable services need to be in place.)	Basis Technologies	Basis Technologies (only when the Customisations were developed/ by Basis Technologies)	Customer	Customer	Plug-In – Basis Technologies Configuration – Customer
JIRA				Customer	Customer	Customer (Filters, Users) only.
ChaRM				Not applicable	Customer	Not applicable
HP SM				Customer	Customer	Customer
GitLab				Customer	Customer	Customer
Jenkins				Customer	Customer	Customer
smartShift				Customer	Customer / smartShift Technologies	Customer / smartShift Technologies

5.1. Integration troubleshooting

Below table details the likely Integration Errors and suggested areas for troubleshooting each. If in doubt, please raise a support ticket via support@basistechnologies.com

Code	Example Message	Suggested root-cause / areas for troubleshooting
1	Notification type & is not supported	The ActiveControl notification API was called with an unknown notification type.
2	& is not a merge target	The polling program will report this if the target in the selection screen is invalid.
3	There are no transports to send to &	The polling program will report this.
4	Not all objects of request & were merged in target &. (&)	The message will appear either when the notification API is called with "C" or when a transport with AC status = "To be completed" is processed AND there are outstanding objects in this transport that are not yet merged in the target system. Check the status table for the status of all objects of the TR.
5	There are & pending requests containing some of the objects in req. & (&)	This error will occur when trying to merge or complete a request that contains objects that are part of other still pending requests. Running the function module /BTI/TE_SS_GET_DEPENDENCIES should output a list of the conflicting requests.
6	Error when releasing the TOC for new objects:	New objects are moved to the target system via a TOC or via the original request. If either cannot be released, this error occurs. The error after the ":" should give a hint as to why. The status table may have the problematic TR in the column "IMPORTED_REQ".
7	Error when creating the TOC for new objects:	New objects are moved to the target system via a TOC or via the original request. If the TOC couldn't be created in the source system, this error occurs. The error after the ":" may give a hint as to why. Root cause could be that the object list is empty or that the RFC connection is down .
8	Error when creating merge request:	The error happens in the target system when creating the merge workbench request or when trying to add the objects to it. The error after the ":" was returned by the standard SAP function, please look up this error message first. The status table may have the problematic TR in the column "MERGE_REQ".
9	Error when marking request as having been manually applied	The original request is marked as "manually applied" to the target system because no actual import takes place for existing objects. If that step fails, this error occurs. Try marking it as manually applied in the AC GUI. The merge request is in column "MERGE_REQ" in the status table.
10	Error when preparing to import new objects, check log and target/location	This error occurs when trying to import a request. Check the log table. Check the target, location and source/target systems in the status table. Possibly, the wrong target was set as parameter for the polling report.
11	ToC form creation failed (&):	The standard transport form saving function module encountered a problem. Try creating a transport form manually for the TR and check the error message.
12	Merge form creation failed (&):	The standard transport form saving function module encountered a problem. Try creating a transport form manually for the TR and check the error message.

14	Object existence check failed because no check function exists for type	The object existence check in the target system was unsuccessful because the request contains objects of unsupported type. Try removing the unsupported objects from the TR.
15	Error when deleting transport form &	Sometimes a transport form has to be deleted. Most likely it was locked by a user or the current user does not have authorization.
16	Error when adding transport form & to control point	The TOC for new objects could not be added to the import queue of the merge target. Is the location and target correct?
17	Error when approving transport form	When trying to complete, the original form could not be approved out of the outbox of the merge target. Perhaps the form was already approved manually or the target is invalid.
18	The overtake and regression check found & dependent request(s) for & (&)	This error will occur when trying to merge or complete a request that contains objects that are part of other still pending requests. Run the overtake and regression analyzer in the Windows GUI for a list of transports.
19	Merge API was called with notification type '&'	Not an error
20	No transport objects that need to be merged were found	The processing report started the merge for a request that doesn't have objects that need to be merged – this should not happen.
21	Request & was not released. Import aborted.	Obsolete
22	Timeout when releasing request &	The parameter ybt_cts/sync_release_timeout controls the time to wait before timeout.
23	Import of request & failed with RC=8	This message will be written to the log table if the import fails.
24	Cannot cancel request & in target & (&)	It is not allowed to cancel a request that contains objects that are already completed, marked as "to be completed", or in an error state.
25	Error returned by &	Error during polling. The appended error message was returned by the smartRetrofit API.
26	Cannot reach target system & (RFC)	Self-explanatory – check RFCs.
27	No handler class maintained for status type &. Check /BTI/TE_SS_HANDL.	Customizing issue. Check table /BTI/TE_SS_HANDL.
28	& status entries	Not an error

	will be processed	
29	Entry processed successfully	Not an error
30	Entry not updated	Not an error
31	Processing class was called for entries with incorrect status	This indicates a bug in the processing report.
32	Dependency API was called	Not an error
33	Entry processed with errors, see log table for details	Not an error
34	The import of request & returned with warnings. Return code: &. (ignored)	Non-critical return codes during import are ignored. Check the import log in the ActiveControl GUI for the import log.
35	Cancelling a merged request is not allowed, the transport will be locked	It is not allowed to cancel a request that contains objects that are already merged or marked as to be merged. The transport form will be locked during cancellation.
36	Could not lock transport form &	During cancellation, locking the transport form failed. This message will only be in the log table because it's not a critical exception.
37	Cannot determine the ActiveControl target from the system ID '&'.	The system ID, e.g. HD2, is ambiguous. Check if there are more than one ActiveControl target ID for the same request and the same system ID in the status table.

5.2. Recovering from Integration Errors

Polling program /BTI/TE_RU_SS_POLL will pick up entries in the /bti/te_ss_stats table and process them.

The Polling program has a retry facility that will retry to send a request to smartShift for n times, after which it gets into an error status, and the status in AC gets set to “Error when submitting”. This can happen due to issues with RFC connectivity, importing the TOCs etc.

To recover from this situation requires manual intervention by the ActiveControl Administrator or other Customer resource involved in the support of the ActiveControl/SmartShift integration.

This manual recovery is done by running the Polling report /BTI/TE_RU_SS_POLL and provide transport requests explicitly in the selection screen, via the ‘Only process these transports’ option.

This will force the report to poll these transports again.

smartShift integration: Polling transports to Retrofit

ActiveControl target configuration

Target	139
SmartShift Server ID	XD1

Polling execution parameters

<input type="checkbox"/> Test run	
Only process these transports	<input type="text"/>
No. of Retries before Error	3

* Basis Technologies did consider creating a dashboard-like report is needed to provide a user-friendly means to recover from errors while preserving data consistency. However this was out of scope of the original Development project.